

layers (10, 11) respectively include portions which are disposed only on the outer cylinder wall (4) of the actuator body (1), and at points that are angularly offset from one another, and each portion from each of the first and second electrode layers contacts the first and second electrode connections (12, 13), wherein each first electrode layer (10) has a recess (17) which encompasses and insulates the second electrode connection (13).

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50. The piezoelectric actuator according to claim 49, wherein the points of the first and second electrode layers and the first and second electrode connections (12, 13) in contact with them, which are exposed on the outer cylinder wall (4) of the actuator body (1), are disposed diametrically opposite one another.

51. The piezoelectric actuator according to claim 50, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

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52. The piezoelectric actuator according to claim 50, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent) and also extending in the longitudinal direction of the actuator body (1).

53. The piezoelectric actuator according to claim 50, wherein each second electrode layer (11) has a recess (18) which encompasses and insulates the first electrode connection (12).

54. The piezoelectric actuator according to claim 53, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

55. The piezoelectric actuator according to claim 53, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction (at least a substantial extent) and also extending in the longitudinal direction of the actuator body (1).

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56. The piezoelectric actuator according to claim 49, wherein each second electrode layer (11) has a recess (18) which encompasses and insulates the first electrode connection (12).

57. The piezoelectric actuator according to claim 56, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

58. The piezoelectric actuator according to claim 56, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent) and also extending in the longitudinal direction of the actuator body (1).

59. The piezoelectric actuator according to claim 49, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

60. The piezoelectric actuator according to claim 49, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent, and also extending in the longitudinal direction of the actuator body (1).

61. A piezoelectric actuator for actuating control valves or injection valves of internal combustion engines in motor vehicles, comprising a circular, cylindrical piezoelectric actuator body (1) in the form of a multilayered laminate made up of stacked layers of piezoelectric material with intervening metallic or electrically conductive, alternating first and second electrode layers (10, 11) that function as electrodes, wherein these first and second electrode layers (10, 11) alternately contact first and second electrically conductive common electrode connections (12, 13), said first and second electrode layers (10, 11) respectively include portions which are disposed on the outer cylinder wall (4) of the actuator body (1) at points that are angularly offset from one another, and wherein the portions are not disposed on the opposite surface of the piezoelectric elements, and each portion from each of the first and second electrode layers contacts the first and second electrode connections (12, 13), wherein each first electrode layer (10) has a recess (17) which encompasses and insulates the second electrode connection (13).

62. The piezoelectric actuator according to claim 61, wherein the points of the first and second electrode layers and the first and second electrode connections (12, 13) in contact with them, which are exposed on the outer cylinder wall (4) of the actuator body (1), are disposed diametrically opposite one another.

63. The piezoelectric actuator according to claim 62, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

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Cont 64. The piezoelectric actuator according to claim 62, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent, and also extending in the longitudinal direction of the actuator body (1).

65. The piezoelectric actuator according to claim 62, wherein each second electrode layer (11) has a recess (18) which encompasses and insulates the first electrode connection (12).

66. The piezoelectric actuator according to claim 65, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

67. The piezoelectric actuator according to claim 65, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent, and also extending in the longitudinal direction of the actuator body (1).

68. The piezoelectric actuator according to claim 61, wherein each second electrode layer (11) has a recess (18) which encompasses and insulates the first electrode connection (12).

69. The piezoelectric actuator according to claim 68, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

70. The piezoelectric actuator according to claim 68, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent, and also extending in the longitudinal direction of the actuator body (1).

71. The piezoelectric actuator according to claim 61, wherein the first and/or second electrode connection (12, 13) constitutes a narrow strip extending in the longitudinal direction of the actuator body.

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72. The piezoelectric actuator according to claim 61, wherein the first and/or second electrode connection (12, 13) constitutes a contact surface in the form of a section of a cylinder circumference extending in the circumferential direction at least a substantial extent, and also extending in the longitudinal direction of the actuator body (1).
